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ABSTRACT

The study reported here was conducted to improve student teachers' skills in asking questions capable of eliciting learner responses on a higher cognitive level. Participants, senior student teachers, were chosen randomly for video evaluations of their question asking strategies. Following video recording of lessons, the student teachers performed self-evaluations. Trained observers and college coordinators used an observation form which recognized the levels, types, and techniques of questions that senior student teachers were utilizing; data were collected after each observation; and feedback was provided. Results indicate that subsequent to video evaluation, student teachers' question asking skills improved in the following areas: skill in asking both low- and high-level questions; techniques when asking questions; and abilities to ask questions which would encourage higher level thinking. Appended are: a student teacher's needs assessment form (which includes concerns about questioning skills); an observation form; a supervising teacher's questionnaire; and an evaluation checklist. (Author/LL)

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# Improving Student Teachers' Strategies for Asking A Range of Both High and Low Level Questions Through Video Evaluations

by

Pollidia Hougham

Cluster 37

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A Practicum II Report presented to the
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in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

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PRACTICUM APPROVAL SHEET

This practicum took place as described.

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May 15, 1992

This practicum report was submitted by Pollidia Hougham under the direction of the adviser listed below. It was submitted to the Ed.D. Program in Child and Youth Studies and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova University.

10 July 1992
Approval Date

Roberta Wong Bouverat
Roberta Wong Bouverat, Ph.D., Adviser

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I would like to thank my husband Dave for the understanding, encouragement and support that he gave me during the writing of this practicum. I would also like to thank my children Chris and Kelly for their continued understanding as I spent many hours lost in study. To my family and friends I say THANK YOU, you have been the wind beneath my wings. I love you all !

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## ABSTRACT

Using Video Evaluations to Improve Student Teachers' Strategies for Asking A Variety of Questions. Hougham, Pollidia.,1992: Practicum II Report, Nova University, Ed.D. Program in Child and Youth Studies. Descriptors: Cognitive Measurement/Critical Thinking/Questioning Techniques/Teaching Methods/Teacher Improvement/Teacher Supervision/Student Improvement/Teacher Effectiveness/Communication Research/Higher Education/Student Teacher Relationship/Creative Teaching

This practicum aimed to improve student teachers' strategies for asking a variety of questions through the use of video evaluations. The three corollary aims were to improve student teachers' strategies for asking both low and high level questions, to improve student teachers' techniques when asking questions, and to improve student teachers' abilities to ask questions, which would encourage higher level thinking.

Trained observers and college coordinators used an observation form which recognized the levels, types and techniques of questions that senior student teachers were utilizing. Feedback was provided to the senior student teachers. Data was collected after each observation made by the trained observers and college coordinators.

Outcomes of this practicum were very positive and rewarding. All objectives were met with success. The data demonstrated that student teachers' question asking strategies will improve with video evaluations. In addition, student teachers, who did not receive video evaluations improved their question asking strategies.



Permission Statement

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July 5, 1992 — Pollidia A. Hougham

# CHAPTER I

# INTRODUCTION

## Description of Work Setting and Population

In a small community in the southeast portion of the United States is a small university branch campus. The students are enrolled in higher education courses in business, counselor education, liberal studies, nursing, and elementary education. Courses are offered on a semester basis with three overlapping summer sessions.

This study involved only the students who were enrolled in the College of Education for each of two semesters. The College of Education enrolls 36 new students each semester. All students have completed their final course requirements except their student teaching. All senior education students who have met the eligibility requirements for student teaching were placed in local elementary schools to practice their teaching skills. For the purpose of this study all education students received training from the writer in effective question asking strategies.

## Writer's Work Setting and Role

The writer's role was both that of a Student Teacher Coordinator and an instructor in the College of Education. The role of a Student Teacher Coordinator involved various responsibilities. The writer supervised junior and senior education students as they performed their practice teaching in local schools. The writer also was responsible for conducting a seminar that presented the current educational issues found in the public school and reviewed methods that were critical and relevant to becoming a successful teacher. Health issues such as drugs and aids were discussed by the instructor and guest speakers. The Beginning Teacher Program which is a mandatory requirement for all beginning teachers was examined and outlined during Senior Seminar. The instructor reviewed classroom management and discipline techniques. The students were presented with information on school district policy and encouraged to meet with their administrator to become knowledgeable on specific school policies. A question and answer session was available for students who were interested in the steps for applying for a teaching position in the local school system. Information supplied by the writer helped all students complete their resume'. The writer provided students with the opportunity to practice their interview skills and actual interviews were arranged.

The writer also taught Educational Foundation and Instructional Education courses. Classroom Learning Principles was an Educational Foundation course taught by the writer. The course revolved around discussions on theories of Cognitive Development, Moral Reasoning, and Psychosocial Development. Another Educational Foundation course taught by the writer was Teaching Strategies. Teaching Strategies introduced the students to classroom management, organizational skills, and question asking strategies. The writer also taught Teaching in the Schools, which was an Educational Foundation course designed for increasing students' awareness for teaching thinking skills across the curriculum.

Elementary Social Science was an Instructional Education course taught by the writer to all elementary education juniors. The Social Science course covered many instructional themes that required students to practice effective question asking strategies. The writer discussed methods, strategies and techniques that were part of a Social Science curriculum.

The writer was part of a team of university instructors who supervised student teachers as they performed their practice teaching. The writer and one other instructor determined the placement of junior and senior student teachers. Junior student teachers were placed in two 7 week settings: one in a primary and

another in an intermediate classroom. Senior student teachers spent 16 weeks in one elementary classroom. The students were observed a minimum of once weekly for 30 minutes. The writer and other college supervisors wrote formal evaluations on each junior and senior student teacher. Conferences were arranged between the college instructors, student teacher and supervising teacher as often as needed, but no less than twice during placement.

# CHAPTER II

# STUDY OF THE PROBLEM

## Problem Description

As the writer observed student teachers during their practice teaching she noticed that many students' question asking skills needed to improve. Questions asked by student teachers were low level questions with little variety. It was the writer's opinion that the student teachers needed to improve their question asking skills, so as to elicit responses from the learner that would elicit thinking on a higher cognitive level.

## Problem Documentation

Identification of the problem was determined through several means. Informal and formal observations completed by the writer and other college coordinators noted that student teachers were not asking a variety of questions that elicited high level thinking from their learners. A needs assessment (see Appendix A) was completed by the student teachers that expressed concerns in how to ask a variety of questions that would generate a high level of

thinking from their students. Teachers who supervised student teachers also expressed concerns about the lack of variety in the questions student teachers asked.

## Causative Analysis

There were various plausible causes for this problem. Student teachers may have been unaware that their question asking strategies were ineffective. Secondly, lesson plans prepared by student teachers may have not included questions that elicited higher level responses from their learner. Another very realistic possibility for this problem may have been that the educational training programs needed to place more emphasizes on question asking strategies. The writer also felt that student teachers did not receive enough practice in question asking strategies. Another plausible cause could be that student teachers' role models may not emulate effective question asking strategies.

The writer felt the specific causes for this problem in her work setting were that student teachers were not provided with an opportunity to practice their question asking strategies, and that student teachers needed to be given the opportunity to evaluate their question asking skills.

## Relationship of the Problem to the Literature

Other professionals have been concerned with question asking strategies that promote both low and high level thinking.

According to Barell (1985) the teacher's behavior effects student response. Teachers who allow for verbal interaction with their students encourage the expression of new ideas from their students. Students who were encouraged to express new ideas begin thinking on a higher cognitive level. A teacher whose strategies exhibited trust, open communications and a willingness to tolerate and encourage differences promoted thinking. In the writer's opinion teachers need to facilitate and incorporate thinking skills into their curriculum on a daily basis. Critical and creative thinking could be encouraged by creating an environment where students were free to respond without the threat of failure.

Jenkin and Lawler (1991) also found that when used strategically questioning can be an excellent tool in helping students increase their reading comprehension. When using textbook passages and nonfiction material Jenkin and Lawler found comprehension skills could be increased with strategic questioning (p. 133). They also found "when used strategically, questioning could be an excellent tool in helping students to comprehend and retain content textbook information" (p. 133). According

to Jenkins and Lawler teachers who were preparing their reading lessons also should place the questions within the context of the learner's prior knowledge and the information from the text. Jenkins and Lawler felt it was "...important to investigate and understand the effects that questions and questioning strategies have on elementary school students' comprehension of textbook material" (p.133). When examining question asking strategies Jenkins and Lawler found that Question, Answer and Relationship (QRA) strategy encouraged questioning at a higher level (p.137). During implementation of the QRA strategy students were taught to identify and practice answering three types of questions from three comprehension levels. The results of Jenkins and Lawler's study indicated that if content area teachers want to increase reading comprehension in their subject area then questioning strategies should be used.

Pearson and Johnson (1982) also examined reading comprehension in relationship to questions and answers. They were concerned with the interaction between the information introduced by the text and the reader's prior knowledge. When viewing questions in context of both reader and text Pearson and Johnson identified three types of questions. They based the identification of the three questions on the source of information the reader used to answer the questions. Specifically stated information in text was the basis for explicit questions.

The reader had only to use the information in the text to answer the questions. The second type of question that Pearson and Johnson identified was the implicit question. Implicit questions yielded implied responses since the information was not explicitly stated in the text. Scriptally implied questions were the third type of question identified. Scriptally implicit questions were neither explicitly stated nor implied within the text. In a scriptally implicit question the reader's response was derived from his or her memory of previous knowledge. Pearson and Johnson concluded from their study of questioning that if questioning was going to be effective, then teachers must use questions, which agree with the goals and the purpose of the instruction.

Fairburn (1987) viewed questioning as a scientific process and technique that all teachers could develop and improve upon. Fairburn examined the relationship between thinking and learning and concluded that "the primary purpose for questioning is to promote thinking" (p. 19). In Fairburn's article The Art of Questioning Your Students, he provided the reader with suggestions about what was correct and incorrect in asking questions. Although he felt that some teachers were "naturally good" in the skill of how to ask the right question at the right time he still maintained that all teachers could improve their questioning procedures by learning a set of "do's and don'ts" in questioning. Fairburn believed that

one "... actually learns by both doing and thinking about what he or she is doing" (p. 19).

McCullough and Findley (1983) found six characteristics of good questioning. The first characteristic of good questioning was teachers who prepared for their questions in advance. The questions prepared for the class should be written and asked in direct and simple language. Secondly, questions should be adapted to the various skill levels and grade levels of the students. When wording questions teachers should encourage participation from all students. Teachers also should encourage and give students time to respond to the question. Motivation is a key ingredient for learning, therefore, teachers need to question their students in such a manner that they feel motivated to respond. McCullough and Findley's final characteristic of good questioning was that questions should be asked for the purpose of obtaining feedback on the student's learning. Teachers who planned definite questions that were clear and followed a logical sequence were observing the necessary ingredients for good questioning.

Rowe is a professional who has researched the effects of "wait time" on questioning and student response. In Rowe's (1978) research on the effects of a "wait time" of 3 to 5 seconds he discovered many positive effects. Students who were given a 3 to 5 second wait time before being required to respond to a question

increased the length and quality of their response. He also found that when the teacher allowed for wait time the number of students responding to the question also increased. Wait time also encouraged speculative thinking and dialogue among students. Not only did wait time encourage and increase student responses, but students also began to increase the quality and quantity of their questions for the teacher.

Another investigation on questioning skills was performed by Wilen. In Wilen's 1987 study he investigated the cognitive levels of teachers' verbal questioning behaviors and the relationship of student preference to test score gains. Wilen discovered that students did not indicate a preference for higher-level questions. Students who indicated a preference for low-level questions performed best on written test that incorporated such questions. Wilen also suggested that teachers should use instructional approaches that were similar to the attitude their students exhibit toward questioning. One example Wilen used was the Inquiry Method for instruction. The Inquiry Method is an instructional method that requires students to use higher level thinking and questioning skills. Students who do not have a positive attitude toward higher-level questioning would not accept readily this instructional approach for learning.

Wilen also discovered that effective questioning techniques could increase the on-task behavior of students. When teachers asked questions that engaged whole class participation then less off-task behavior was observed. Teachers who were aware of on-task behavior of the class during question asking sessions also were able to ask more effective questions and encourage learner response.

Esler and Sciortino (1988) felt that teachers needed to know how to use questions to elicit responses from students, to probe for ideas, and to direct the discussion to closure. The purpose for eliciting questions is to encourage the initial response of a class. Questions should be addressed to the whole class, so that all students are encouraged to participate. Esler and Scoritino also suggested that eliciting questions not be pre-identified because to do so would limit the number of student responses. Eliciting questions should seek to expand students' participation. Teachers should plan their questions and decide if the questions are to be convergent or divergent questions. If the teacher is attempting to encourage whole participation then she/he may need to decide before the lesson to whom a particular question will be addressed. In this manner the teacher may meet the individual differences and needs of her/his students. Another purpose of eliciting questions is to seek responses from reluctant students. The teacher can

give reinforcing statements to encourage a reluctant student to respond. By appealing to the student's emotional needs the teacher may encourage the student to respond.

Esler and Sciortino (1989) also found that probing questions would expand initial student response. According to Esler and Sciortino there are four purposes for using probing questions. Probing questions extend student's ideas. An extension of student's ideas occur when she/he does not have to justify her/his response. Students also extend their responses when they make inquiries for additional information on the same general topic. Redirecting is a technique used when teachers use probing questions to refocus the student's attention to the desired goal. When a teacher engages in redirecting she/he does not react to the student's response, but simply directs it to another student. This technique allows the student's ideas to expand and does not discourage the student from making several responses. Teachers who model this method of question asking provide an opportunity for the non-volunteers to participate and encourage reflective thinking. As teachers use the probing technique for asking questions they also should ask their students to justify their ideas. The student is asked to support her/his response through several methods. The student may support her/his response through personal examples or provide justification with

empirical data. As the student is asked to support her/his response opinions, values and attitudes are formed. Probing questions also require students to clarify their ideas. Teachers who ask students to rephrase their responses are asking for a clarification. When a student uses terms or words that are unclear the teacher needs to probe and have the student clarify the terms or words used. As the teacher seeks to clarify the ideas expressed by a student she/he may ask other students to offer clarification in their words.

When the objectives of a lesson are met the teacher may use closure seeking questions to help students form conclusion, generalizations, or solutions to problems generated by open-ended discussions (Esler and Scoritino, 1989). The teacher invites the students to draw conclusions from the discussion. As the students summarize the teacher makes certain that all major points are addressed. The teacher then encourages the students to search for patterns or generalizations that can be made from the information available to them. The teacher again seeks for clarification by discussing the value of the information that is being presented and by narrowing the general discussion. Students then expand their thinking by suggesting procedures for investigating or resolving problems. Students' decision making skills are enhanced as they seek to resolve the problem. Finally

closure seeking questions help to influence the students in drawing conclusions based on knowledge.

Esler and Scortino (1989) also felt that teachers should use convergent questions when the answers are predetermined. Information seeking questions are convergent questions that teachers use when seeking answers for review or drill. Information seeking questions also can be used for establishing background information in problem solving activities.

Oral questions can be categorized as convergent or divergent because of the results they have on the learner's thought processes (Esler and Scortino, p. 46). Convergent questions require responses that the learner has stored in memory. These are often the fact recall questions. Divergent questions solicit opinions, judgement and inferences from the learner.

The literature review provided evidence that the problem of effective questioning does exist. Research by Borg (1980) found a high incident of teachers asking several questions in succession before calling on a student to respond. A study by Hoetker (1986) recorded an average of 5 questions per minute in junior high English classes. Third grade teachers in a study by Gambrell (1983) were found to ask a question every 43 seconds during reading instruction. Research by Hollingsworth (1982) found that children were often asked to reiterate simple facts rather than respond to higher-level

questions. In Clegy's (1971) study of high school teachers he found that teachers asked 395 question per day.

The literature not only ascertained that teachers ask a large quantity of questions, but also provided information on the techniques and the types of questions most often used by teachers. Strother (1989) found that teachers ask questions that focus on memory level thinking. A study by Daines (1986) reported that 93% of questions asked by elementary and secondary teachers were at the lowest level of comprehension. A study on elementary teachers found that they repeated their students' answers an average of 31 times in a 20 minute lesson (Borg, 1980). Questioning is often considered a tool teachers use for encouraging critical thinking skills. Yet in a study by Ramsey et al. (1990) they found that only 29% of questions asked by elementary and secondary teachers required critical thinking skills.

The literature yielded various examples of questioning. One paradox found in the literature was that pollsters and cross-examiners ask questions to delimit thinking and speaking, whereas teachers rely on questions to enhance thought and stimulate response (Rogers, 1988). Teachers often ask direct questions when using the techniques of probing or clarifying a response unlike personnel interviewers who are instructed to not ask direct questions whenever possible (Lopez, 1965). Olinick

(1954) found that psychotherapists felt questions were a form of intervention rather than a method of expanding the thinking process. Arbuckle (1950) found asking questions to be of little value to counselors.

The literature review supported the significance of effective question asking strategies. The strategies and techniques gleaned from the literature should provide the writer with the information needed to design objectives for implementing this major practicum. The writer recognizes that there are many strategies for teaching question asking techniques and will attempt to meet the needs of the students in this program.

# CHAPTER III

# ANTICIPATED OUTCOMES AND EVALUATION

## Goals and Expectations

The goal of this practicum was to improve student teachers' strategies for asking questions. The specific goal was to improve student teachers' strategies for asking a variety of both low and high level questions, which would encourage learner response on a higher level of thinking.

The writer of this practicum would like to observe student teachers who can recognize and evaluate their question asking techniques. The writer trained junior education students to observe effective question asking strategies. The purpose for training junior education students was to provide them with the experience and knowledge necessary for asking effective questions. The writer would like to observe junior education students using this knowledge when they begin their practice teaching. The writer trained senior student teachers in question asking strategies and expected to observe them using a variety of question asking strategies when

planning and implementing their lessons. After implementation of this practicum the writer anticipated that the supervising teachers would note improvements in the student teachers' question asking strategies. The writer would like to determine if the use of video evaluations of question asking strategies by student teachers will improve student teachers' question asking strategies.

## Behavioral Objectives

The specific behavioral objectives of this study were as follows:

1. After a period of 16 weeks, Elementary Education students enrolled in senior student teaching would improve their question asking strategies, as measured by an Observation Form designed by the writer (see Appendix B).

2. After a period of 16 weeks, Elementary Education students enrolled in senior student teaching, who are videoed during their practice teaching, would show improvement in their question asking strategies, as measured by an Observation Form designed by the writer.

3. After a eight week training session conducted by the writer, Elementary Education junior

by the writer, Elementary Education junior student teachers would be skillful at observing senior student teachers' question asking strategies, as measured by their ability to complete the Observation Form when viewing a video taping of practice teaching.

4. After the completion of 16 weeks of student teaching student teachers' supervising teachers would state that student teachers' question asking strategies had improved, as measured by the Supervising Teachers' Questionnaire that was developed by the writer (see Appendix C).

5. After a 16 week implementation period, College coordinators would observe student teachers using a variety of question asking strategies, as the they performed their practice teaching, as measured by an Evaluation Check List designed by the writer (see Appendix D).

## Measurement of Objectives

Each behavioral objective was measured with an evaluation tool. The first objective was measured by comparing the students' performance on the Observation Form designed by the writer. The Observation Form was

Observation Form recorded the levels of questions, the types of questions, and the techniques the student teachers used. The trained observer recorded the information using tally marks. The second behavioral objective was measured by having a random sampling of senior student teachers videoed as they completed a lesson during their practice teaching. The writer provided the student teachers with the opportunity to view and evaluate their question asking strategies. The writer compared the results from the Observation Forms after 8 weeks. The third objective was achieved when the writer completed a training session with the observers. The writer had each observer complete the Observation Form while viewing a video on practice teaching. The fourth objective was evaluated by administering a written questionnaire to the student teachers' supervising teachers at the end of 16 weeks. The questionnaire asked the supervising teacher to assess the student teacher's ability in asking a variety of questions. The final objective was achieved when college coordinators completed a check list on the levels, the types, and the techniques of questioning skills used by their student teachers. The check list designed by the writer was completed by the coordinator twice during the student teachers' practice teaching.

The data collected from these instruments determined the success of the implementation of this practicum. The

writer collected data on the 16th and 32nd week of implementation. The data will be disseminated in the form of bar graphs and pie graphs. The graphs will display information on the levels, the types, and the questioning techniques used by both groups, those with video evaluations and those without video evaluation.

# CHAPTER IV

# SOLUTION STRATEGY

As the writer observed student teachers during their practice teaching she noticed that many of the students' question asking skills needed to improve. Questions asked by student teachers were low level questions with little variety. It was the writer's opinion that the student teachers needed to improve their question asking skills, so as to elicit responses from the learner which would demonstrate thinking on a higher cognitive level.

## Discussion and Evaluation of Possible Solutions

The literature review provided several possible solutions to the problem of question asking strategies.

Christenbury and Kelly (1983) felt that the kinds of questions teachers used should not be rigidly determined by one hierarchy, but should be varied and appropriate to the learner's interest. They also felt that teachers who used the rapid fire method of asking questions discouraged class discussion. The writer felt that class discussion is an important element for the development of

reflective and critical thinking. Teachers who do not use an appropriate wait time do not encourage thinking on a higher level. The response from the learners become low level, factual and knowledge recall based.

Dillion (1988) recommended 3 actions teachers should acquire to encourage their students to ask more questions. Dillion felt if teachers would limit the number of questions they asked, then their students would have the opportunity to formulate questions themselves. Dillion suggested that students would be encouraged to ask more questions if teachers would be sensitive to their needs and provide them with a longer response time. Dillion's final suggestion for encouraging students to ask more questions was for teachers to create a classroom environment that would welcome students' questions.

A study conducted by Marylou Dantonio (1987) of the University of New Orleans found questioning strategies could be taught through several different means. In her studies Dantonio found that the demonstration of effective skills by an instructor could be used to enhance the questioning techniques of student teachers. She also found that the practice of questioning skills in simulated and real settings with feedback was an effective method that could be used for training student teachers in the art of questioning. The most effective practice Dantonio found for training student in the art of

questioning was for the students to observe live and simulated questioning practices.

## Description of Selected Solutions

Additional ideas were generated by the writer for improvement in question asking strategies of student teachers. The writer felt that students' observations of micro-teaching by other students would provide awareness of question asking strategies. Student teachers could present lessons to peers and then be evaluated on their question asking effectiveness. Student teachers also could informally evaluate and then model the questioning techniques of their supervising teachers. The writer felt that students could improve their question asking techniques through role playing exercises in their Teaching Strategies class. Role playing would reinforce correct techniques for asking questions. Another idea generated by the writer was for students to record themselves as they taught small groups of learners during their practice teaching. The recording would provide the student teachers with a method for self-evaluation of their questioning techniques, along with other useful information. The writer felt video taping would be the most useful means for student teachers to use for improving their question asking techniques. Students could then observe not only the oral communication

between themselves and the learner, but also any nonverbal communication that occurred. The writer also felt that mini-workshops that reviewed strategies for asking effective questions should be offered to enhance teachers' and student teachers' question asking skills.

As the writer reviewed the literature she determined a possible solution of how to improve student teachers' question asking techniques. The writer considered Christenbury and Kelly's (1983) conviction that questions should be varied and appropriate to the subject matter and to the learner's interest. The writer concurred with Christenbury and Kelly's belief that rapid fire questioning discourages class discussion. The writer was also interested in Dillion's (1988) study that recommended 3 actions teachers could take to encourage their students to ask more questions.

The suggestions by Marylou Dantonio (1987) of the University of New Orleans were the most conducive to the writer's work setting. Since the population with whom the writer was working was similar to Dantinio's population the ideas generated by Dantinio seemed most applicable for the writer's study. Dantinio's study found the most effective method for improving student teachers' questioning skills were for students to observe live and simulated questioning practices.

## Report of Action Taken

To solve the problem presented in the practicum the writer trained student teachers and observers in question asking strategies. The training provided the student teachers with the opportunity for practicing and evaluating their question asking techniques. The writer used a video camera for recording a random sampling of the student teachers and evaluated and recorded their progress.

Several steps were implemented for the organization and coordination of the training program. All senior student teachers received the training program during senior seminar. At the conclusion of the training program the writer randomly chose student teachers for video evaluations of their question asking strategies. The student teachers who were recorded on video performed a self-evaluation and received feedback from the writer as to the number of convergent and divergent questions they asked, the types, and the techniques they used in their question asking strategies. Student teachers who did not use the video, also received feedback on the levels, the types, and the techniques they used.

Junior education students received training from the writer on question asking strategies. The junior education students observed the senior student teachers

as they performed their practice teaching. The junior education students then completed a form where they recorded the levels, the types, and the techniques used during a question asking session. At the conclusion of the observational period the writer reviewed the data collected from the junior education students and compared the two groups of senior student teachers. The writer also reviewed the Observation Form with the college coordinators. The coordinators observed the student teachers and completed the form. The writer collected the data from the college coordinators and compared the two groups of student teachers. The writer repeated the study during the second semester.

The practicum was implemented over a period of eight months. The first two months were used for training the junior education students for the role of trained observers. The writer presented the current literature on question asking strategies and oral questioning techniques. The students were introduced to and then required to use a variety of levels and types of questions in their writing assignments and oral presentations. Role playing was used to develop the observers' knowledge in oral questioning. Videos of students' practice teaching were shown and evaluated by the junior education students. The junior education students were ask to evaluate the video based on how well the students on film were using a variety of convergent

and divergent questions, the types of questions, and the techniques the students were using. At the conclusion of two months the observers were randomly assigned and completed their first evaluation of senior student teachers' question asking strategies. During the next two months of the practicum the writer video taped senior student teachers and the trained observers performed their assigned observations. At the conclusion of four months the writer administered a written questionnaire to supervising teachers and collected all data. The writer implemented the training and video taping with a new group of student teachers for the remainder of the implementation period.

The observers were trained during the writer's Social Science and Teaching Strategies classes. The supervising teachers, senior student teachers and principals of the participating schools were notified that student teachers were to be videoed during the course of their practice teaching.

The writer notified the Director of Student Teaching at the branch campus, as to the writer's intent to video students as they completed their student teaching.

# CHAPTER V

# RESULTS, DISCUSSION, AND RECOMMENDATIONS

As the writer worked as an instructor at a small university branch campus she noticed that student teachers seemed to have difficulty with their question asking strategies. The students seemed to ask questions that were low level questions with little variety and technique. After reviewing the literature for possible solution strategies the writer designed a program for improving student teachers' question asking strategies through the use of video evaluations.

## Results

The first objective of the program stated that students enrolled in senior student teaching would improve their question asking strategies as measured by an Observation Form designed by the writer (see Appendix B). To measure this objective the writer trained 27 observers for 8 weeks on the correct usage of the form. At the completion of the training session the writer then had the trained observers use the Observation Form to record the student teachers' question asking strategies.

The Observation Form measured the student teachers' strategies in the levels of questions, the types of questions, and the techniques used when asking questions. The trained observers collected data on 36 student teachers who did not receive video evaluations and 32 students who did experience video evaluations. Each student teacher was evaluated by the trained observer, given feedback and then evaluated a second time. The writer found that student teachers without video evaluations decreased the mean score for the number of convergent questions from 11.9 to 10.5 (see Figure 1). Student teachers who experienced video evaluations decreased the number of convergent questions they asked from a mean score of 14.0 to 12.0 (see Figure 2). The writer felt the decrease in the of number convergent questions asked would support the belief that feedback provides opportunity for growth. The difference in the mean scores for the students who experienced video evaluations were slightly better than those students without video evaluations. The writer felt the video evaluations provided the feedback that enabled these students to decrease the number of convergent questions they asked. The writer found that the mean scores on the number of divergent questions the students asked increased. The students without video evaluations increased the mean score from 8.3 to 9.2 (see Figure 3). Students with video evaluations increased their mean

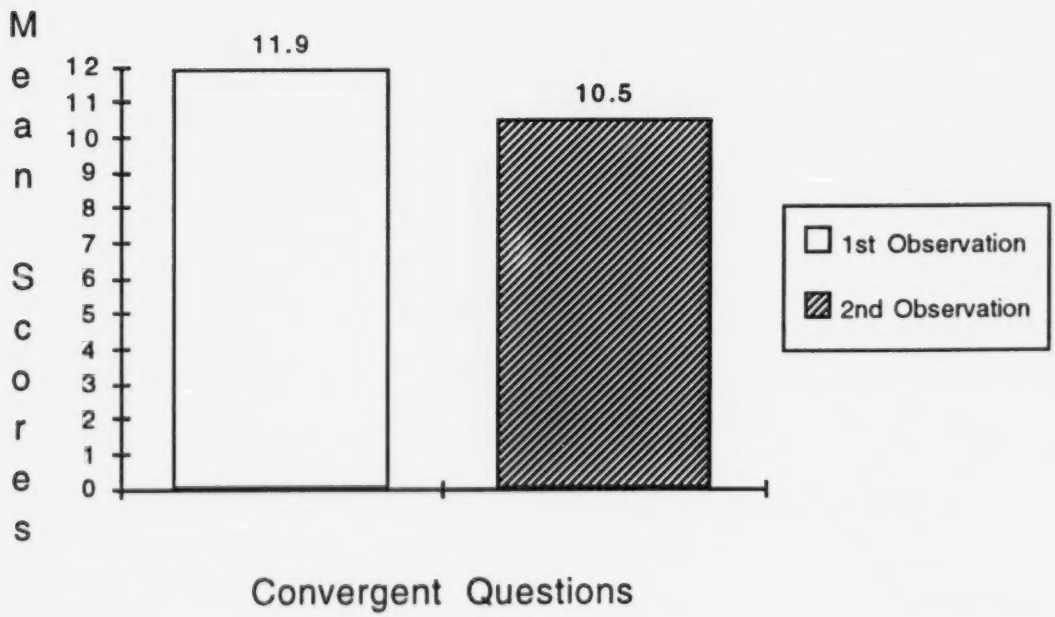



Figure 1. Convergent questions asked by students without video evaluations, as recorded by trained observers.

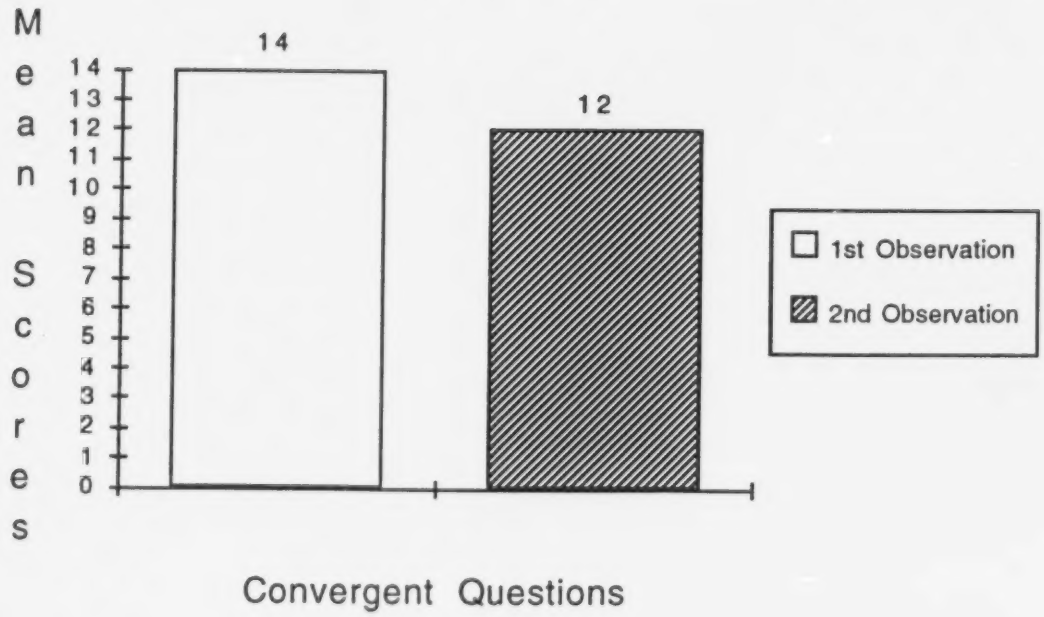



Figure 2. Convergent questions asked by students with video evaluations, as recorded by trained observers

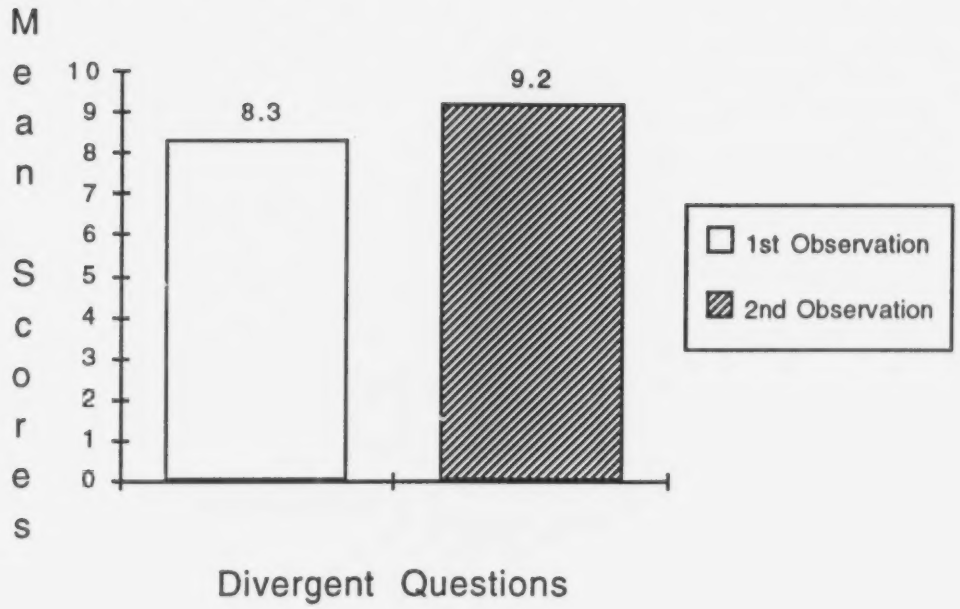



Figure 3. Divergent questions asked by students without video evaluations, as recorded by trained observers.

scores from 3.4 to 7.8 (see Figure 4). All students increased the number of divergent questions they asked. The students with the video evaluations increased their mean scores significantly more than those students without video evaluations.

The Observation Form also measured the types of questions asked by the student teachers. The students without video evaluations decreased the number of focusing questions from a mean score of 6.5 to 5.6; increased the number of prompting questions from 4.7 to 5.1; increased the number of probing questions from 4.7 to 4.9; and increased the number of closure seeking questions from 2.1 to 3.9 (see Figure 5).

Students who received video evaluations increased the number of focusing questions from a mean score of 5.7 to 8.3; increased their prompting questions from 4.8 to 6.3; increased their probing questions from 4.8 to 7.0; and increased the number of closure seeking questions from 2.1 to 2.8 (see Figure 6). All students experienced a variation in the types of questions they asked. The students with video evaluations consistently increased their mean scores for all types of questions, while the students without video evaluations decreased the number of focusing questions and increased the number of prompting, probing and closure seeking questions.

The techniques the students used when asking questions were also measured by the Observation Form. The

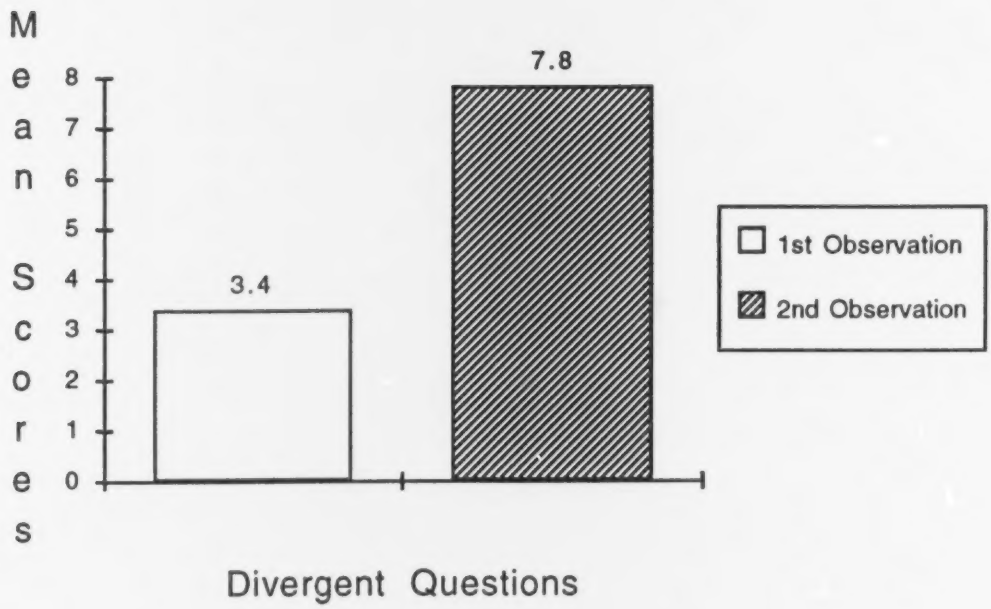



Figure 4. Divergent questions asked by students with video evaluations, as recorded by trained observers.

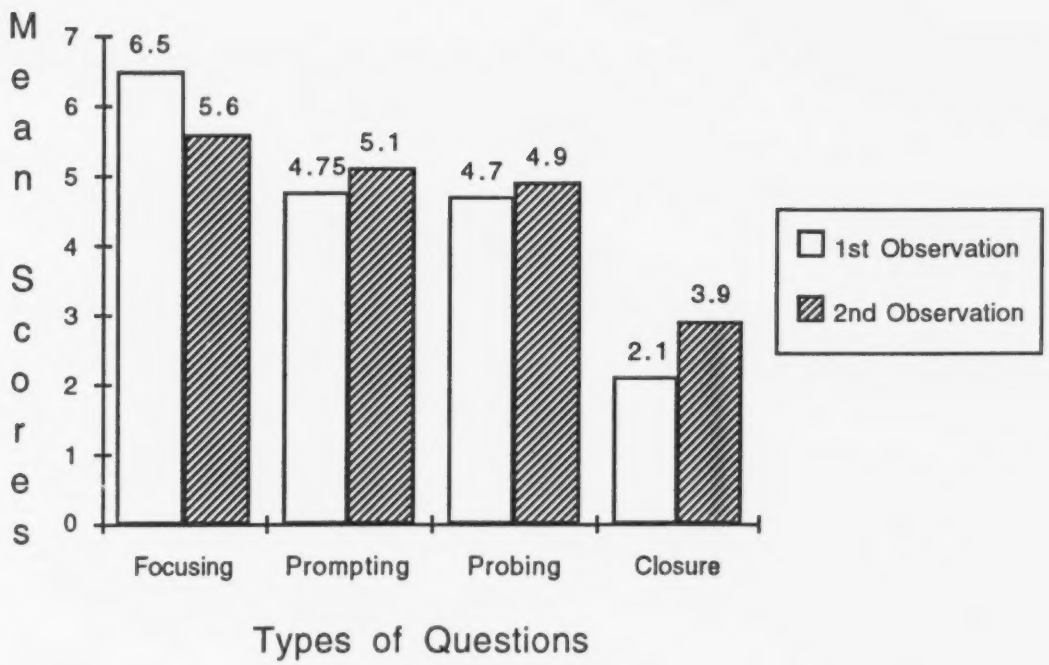



Figure 5. Types of questions asked by students without video evaluations, as recorded by trained observers.

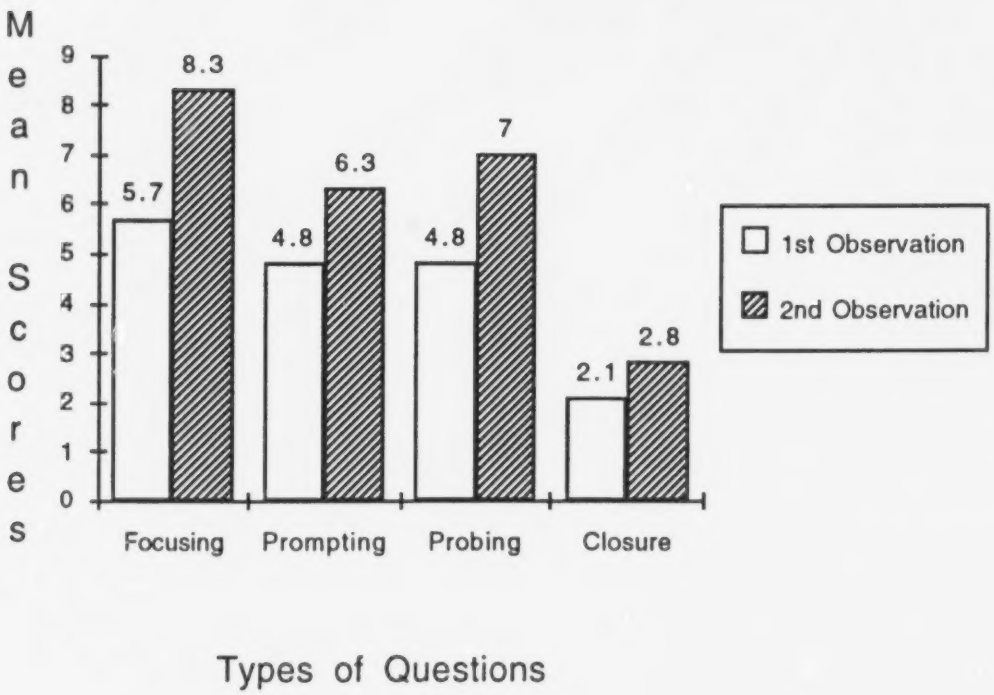



Figure 6. Types of questions asked by students with video evaluations, as recorded by trained observers.

students without video evaluations increased their mean scores in redirecting questions from 6.9 to 9.4 and the wait time from 5.5 to 10.9 (see Figure 7). The students with video evaluations also increased their mean scores in redirecting questions from 7.0 to 14.4 and the wait time from 6.5 to 15.4 (see Figure 8).

The data indicated that the feedback provided to the students during the interval between the two observations improved their mean scores in the levels, the types, and the techniques they used when asking questions. The mean scores of students with the video evaluations were slightly more significant than those of students without video evaluations.

The writer's second objective was for student teachers enrolled in their senior student teaching to improve their questions asking strategies through video evaluations. This objective was measured by the Observation Form designed by the writer (see Appendix B). To measure this objective the writer used observers trained for 8 weeks to record the levels of questions, the types of questions, and the techniques the students used when asking questions. The data collected by the trained observers indicated that students who received video evaluations improved their question asking strategies. Convergent questions asked by students with video evaluations decreased by a mean score of 2 (see Figure 2). Divergent questions asked by students with

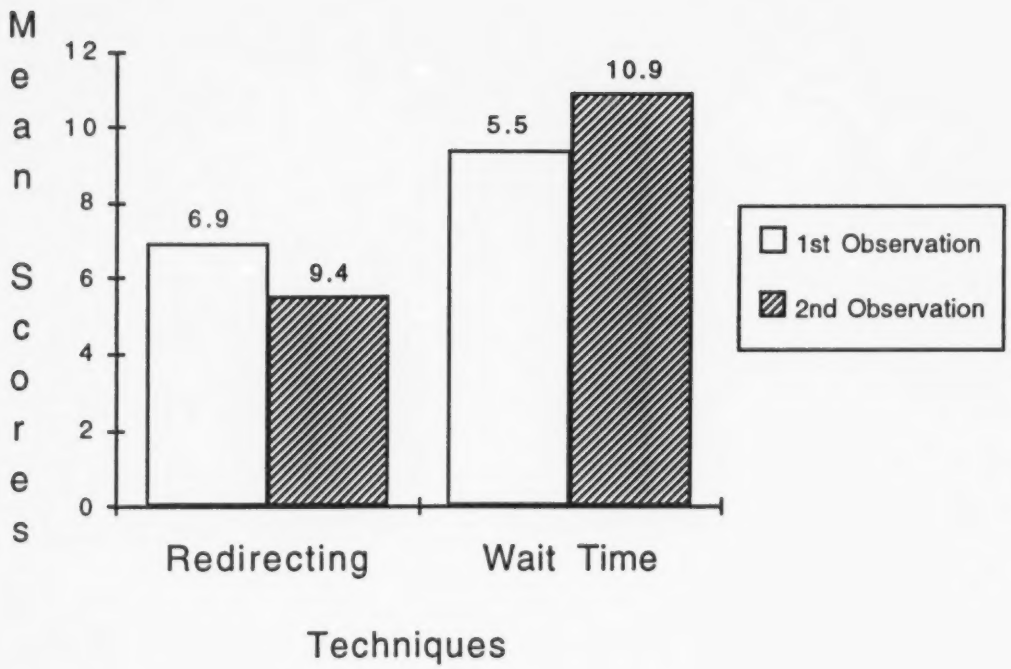



Figure 7. Techniques used by students without video evaluations, as recorded by trained observers.

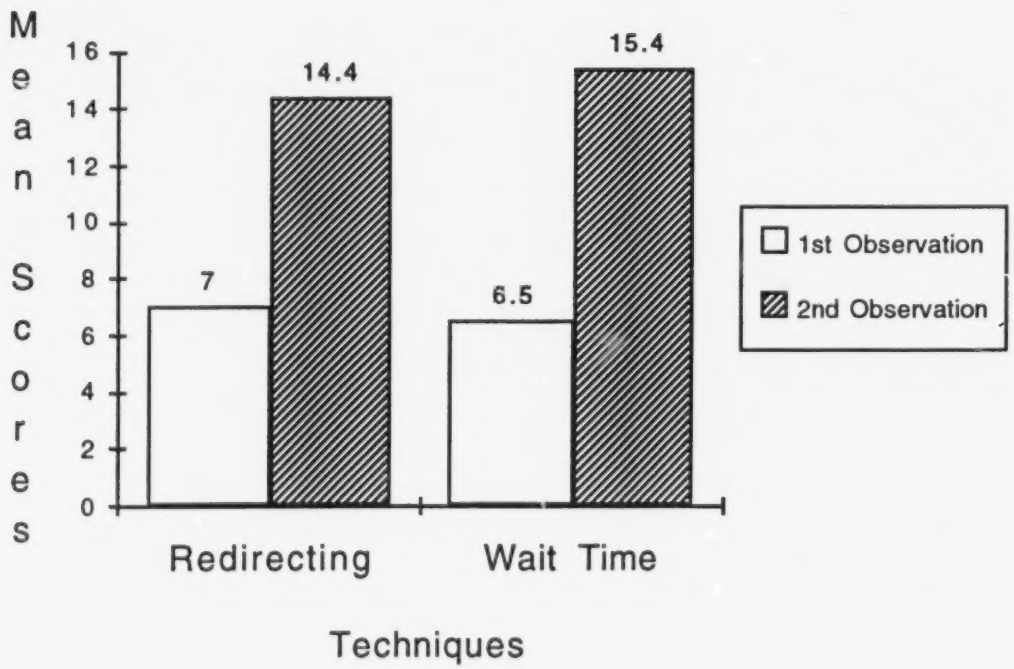



Figure 8. Techniques used by students with video evaluations, as recorded by trained observers.

video evaluations increased by a mean score of 4.8 (see Figure 4). The students increased their mean scores of the number of focusing questions by 2.6; the number of prompting questions by 1.5; the number of probing questions by 2.2: and the number of closure seeking questions by .7 (see Figure 6). Techniques used by the students also increased. Students' redirecting techniques increased by a mean score of 7.4 and the mean score of the wait time increased by 8.9 (see Figure 8).

The writer's third objective was for the trainers to become skillful in observing senior student teachers' questions asking strategies as measured by the writer's Observation Form (see Appendix B). The objective was accomplished by having the trainers view a video tape on practice teaching while using the Observation Form. The writer then reviewed each trainer's form and discussed the data she/he had collected. Each trainer was required to view a video tape on practice teaching and successfully complete the Observation Form. When the writer felt each trainer was competent in the correct usage of the form and identification of the levels, the types, and the techniques of demonstrated on the tape. then the writer randomly assigned each trainer a student teacher to observe. The trainers were not informed about which senior student teacher would be receiving video

evaluations and which would not be receiving video evaluations.

The fourth objective was achieved when the writer had each supervising teacher complete a written questionnaire to assess the student teacher's ability in asking a variety of questions, which encouraged the learner to use high level thinking skills. The questionnaire was designed by the writer with questions 3, 5, and 8 specifically focusing on questioning strategies (see Appendix C). Supervising teachers were asked to use a Likert Scale to determine the effectiveness of the student teacher's strategies. Question 3 ask supervising teachers to rate the benefits of the video taping as an evaluative tool for the student teacher. The supervising teachers responded with 50% strongly agreeing, 25% agreeing, 12.5% disagreeing, and 12.5% undecided if video taping was a beneficial tool (see Figure 9). Question 5 was designed to determine the improvement of question asking strategies (levels, types and techniques of questions) of student teachers. The supervising teachers responded with 67% strongly agreeing and 33% agreeing that improvement had occurred. None of the supervising teachers were undecided or disagreed that student teacher's question asking strategies had not improve (see Figure 10). Question 8 examined if the supervising teachers felt student teacher's questions encouraged

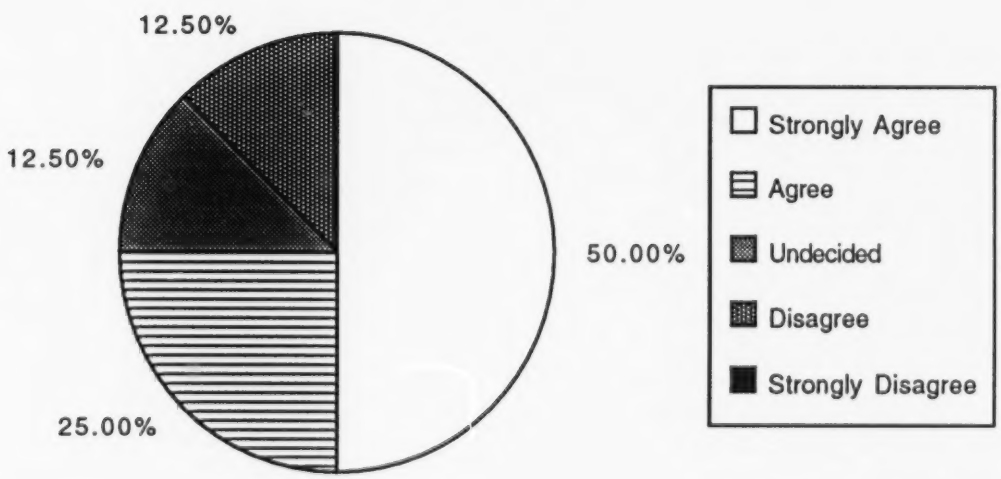



Figure 9. The benefits of video taping as an evaluative tool.

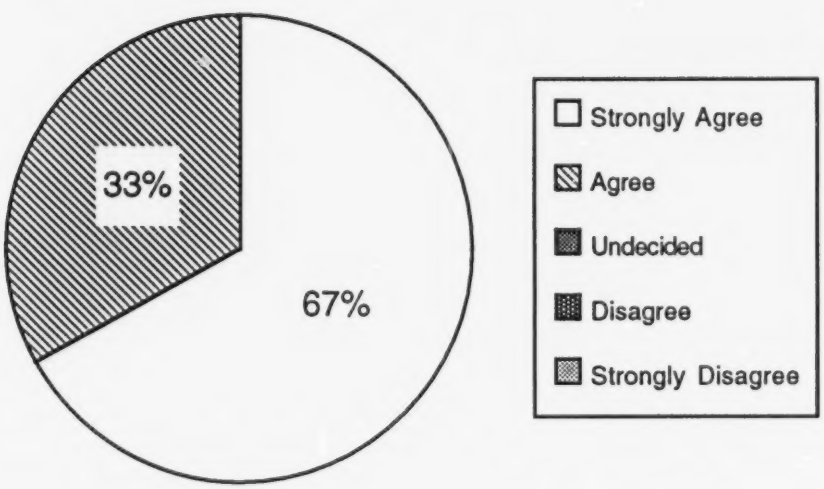
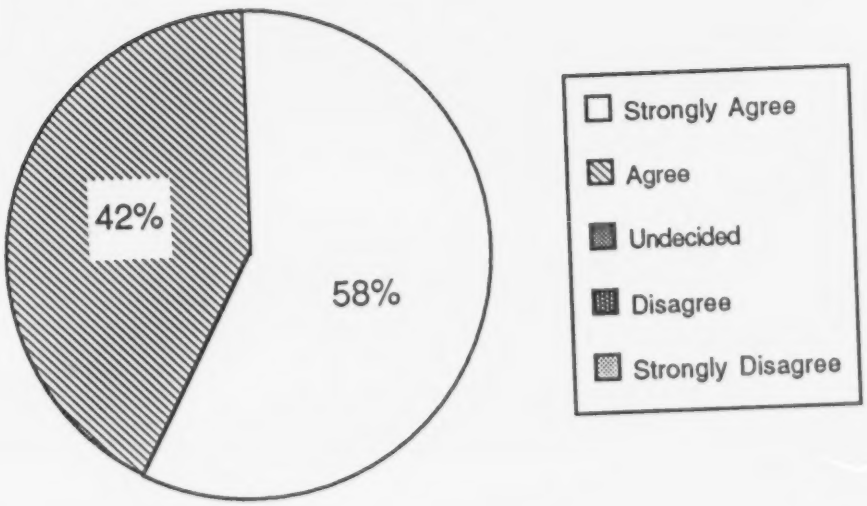



Figure 10. Improvement in the levels, types, and techniques of questions.

responses on a higher cognitive level. The data collected indicated that 58% of the supervising teachers strongly agreed that their student teacher's questions led to higher level thinking responses from their learners. Forty-two percent of the supervising teachers agreed that their student teacher's questions led to higher level thinking responses. None of the supervising teachers were undecided or disagreed (see Figure 11).

The final objective was for the college coordinators to complete a check list on the levels, the types, and the techniques of questioning skills their student teachers used (see Appendix B). This objective was achieved by the college coordinators and provided data similar to the data provided by the trained observers. The college coordinators found that the students' mean score on convergent questioning decreased from 9.3 to 7.4 for students without the video evaluations (see Figure 12). The college coordinators found that students who experienced video evaluations decreased their mean score on convergent questioning from 10.6 to 5.1 (see Figure 13). Students with video evaluations decreased their convergent questioning by a mean score of 5.5, whereas students without video evaluation decreased their mean score 1.4. The student teachers' divergent questioning was also observed by the college coordinator. The students without the video evaluations increased the mean score of their divergent questioning by 2.8




Question 8

Figure 11. Question asking strategies that encouraged responses on a higher cognitive level.

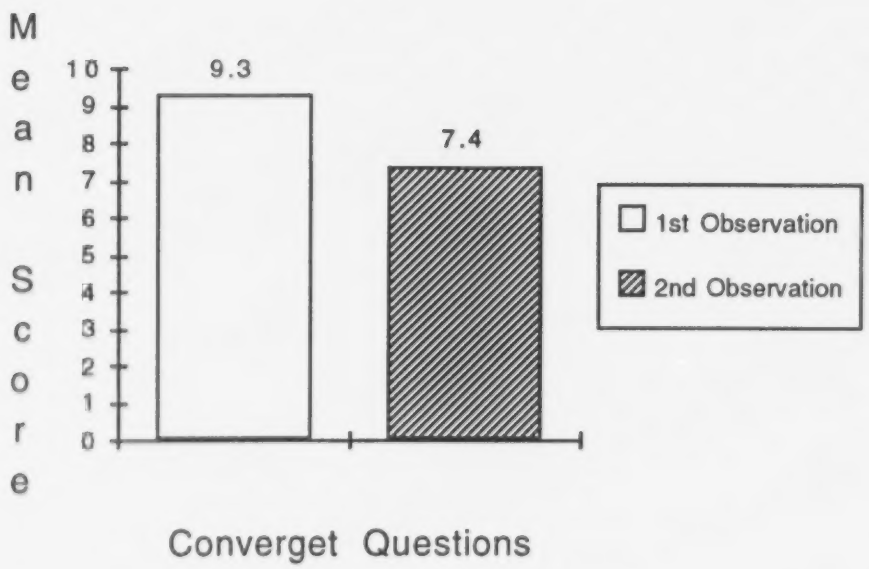



Figure 12. Convergent questions asked by students without video evaluations, as recorded by college coordinators.

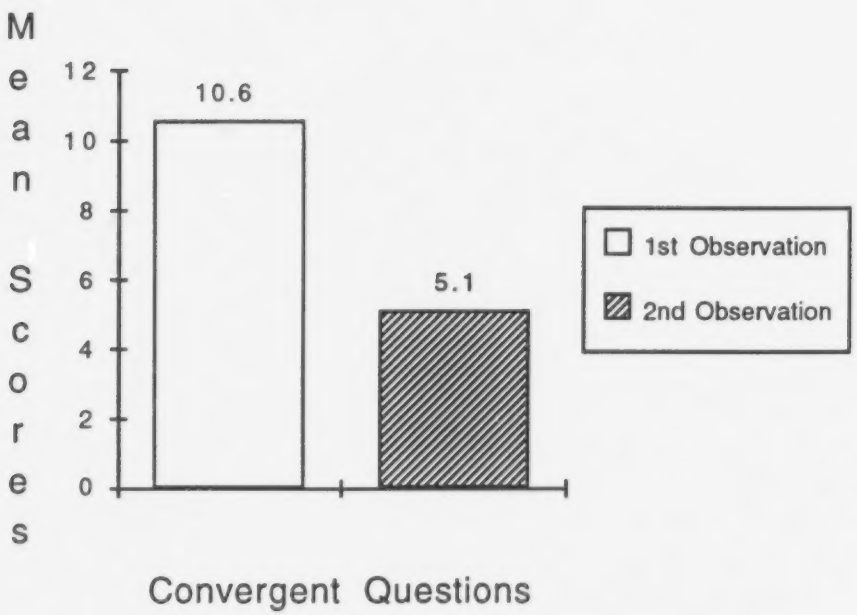



Figure 13. Convergent questions asked by students with video evaluations, as recorded by college coordinators.

(see Figure 14), whereas the students with the video evaluation increased their mean score by 6.8 (see Figure 15).

The college coordinators also observed the types of questions the student teachers asked their learners. Data collection indicated that students without video evaluations increased the mean score of the focusing questions by .4; prompting questions by 1.8; probing questions by 2.8; and closure seeking questions by .8 (see Figure 16). Students who received video evaluations also increased the mean levels of the types of questions they ask the learners. The mean scores of focusing questions increased by .7; prompting questions increased by 1; probing questions increased by 4.2; and closure seeking questions increased 5.8 (see Figure 17). The college coordinator also observed the techniques the student teachers used when asking the questions. The mean score of the student teachers without video evaluations increased in the amount of redirecting the student teacher provided the learner by .6 and the mean score of the wait time increased 3.3 (see Figure 18). Techniques used by the students who received video evaluations also increased. The mean score for redirecting increased by 3.5 and the mean score for wait time increased by 6.3 (see Figure 19).

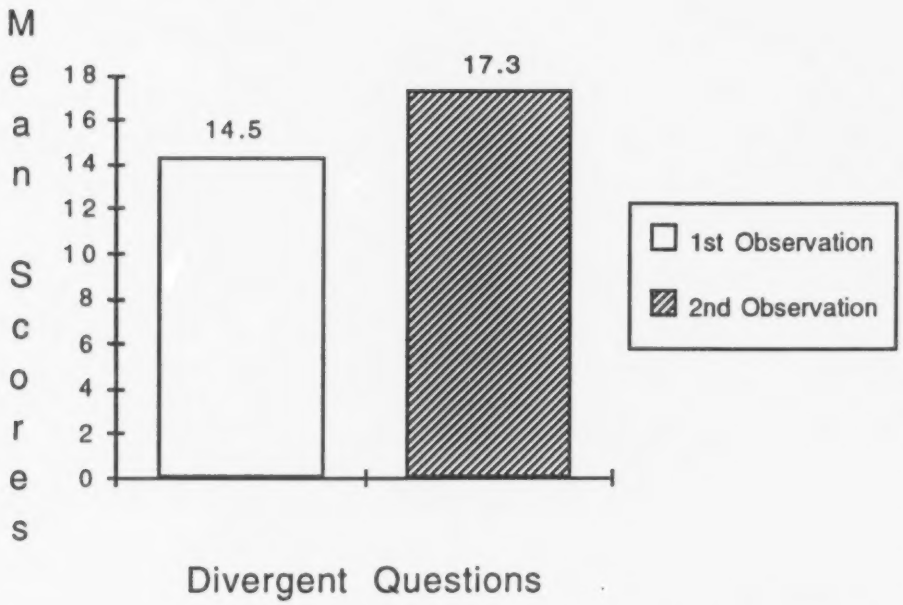



Figure 14. Divergent questions asked by students without video evaluations, as recorded by college coordinators.

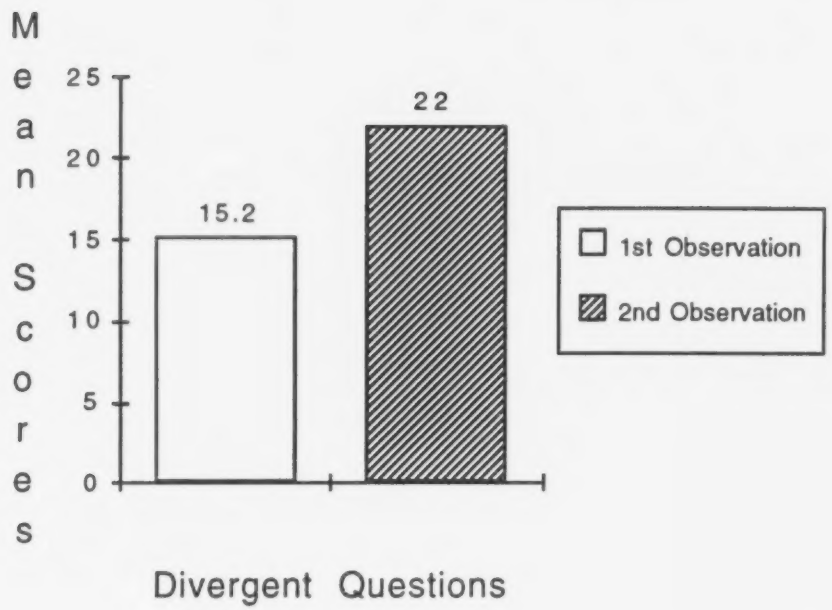



Figure 15. Divergent questions asked by students with video evaluation, as recorded by college coordinators.

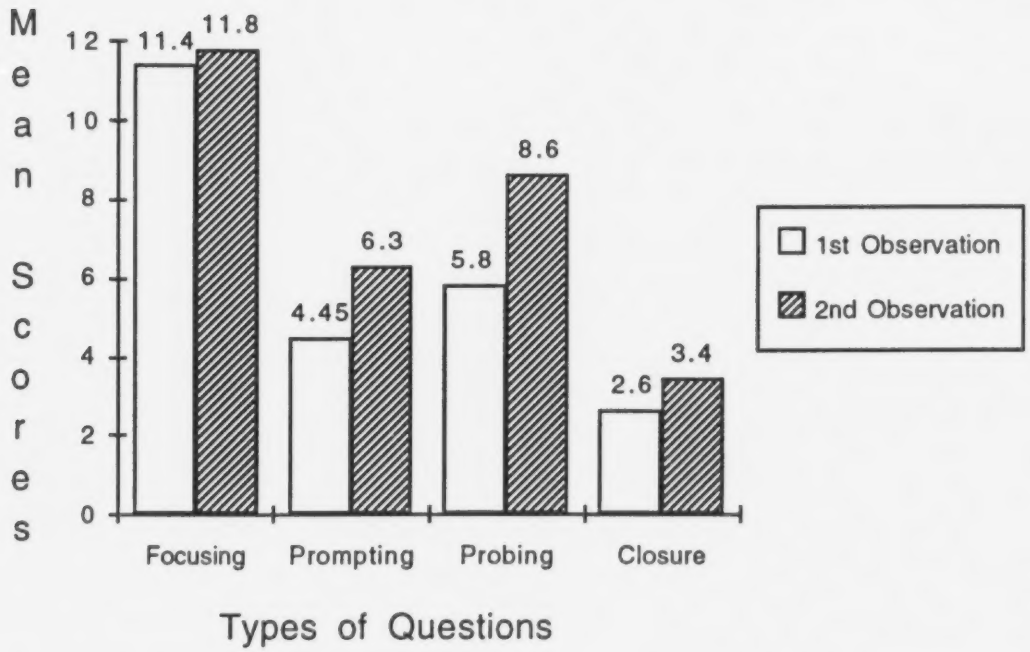



Figure 16. Types of questions asked by students without video evaluation, as recorded by college coordinators.

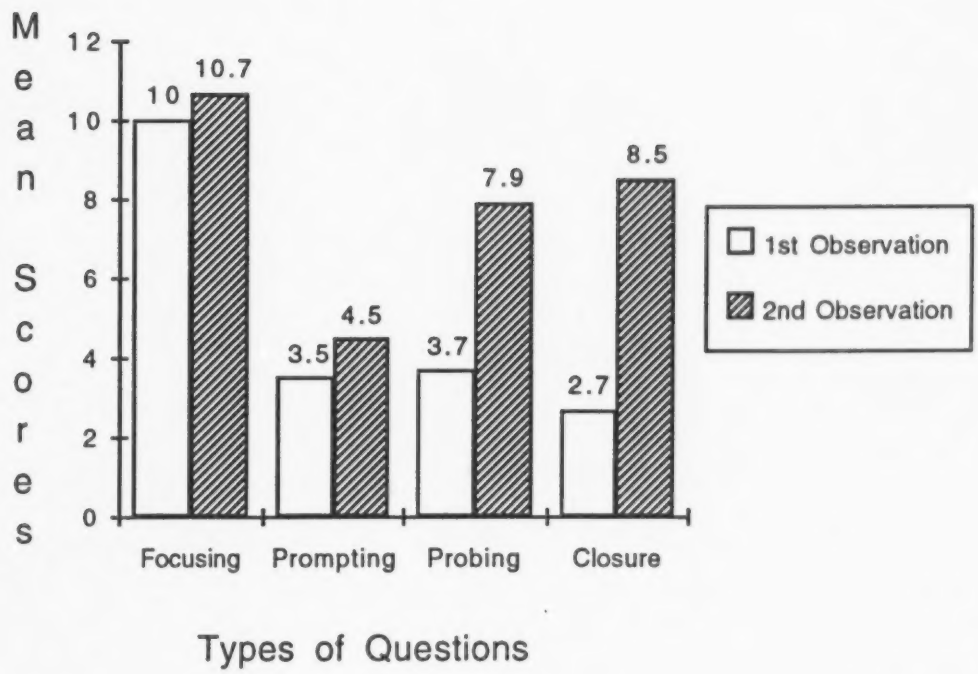



Figure 17. Types of questions asked by students with video evaluation, as recorded by college coordinators.

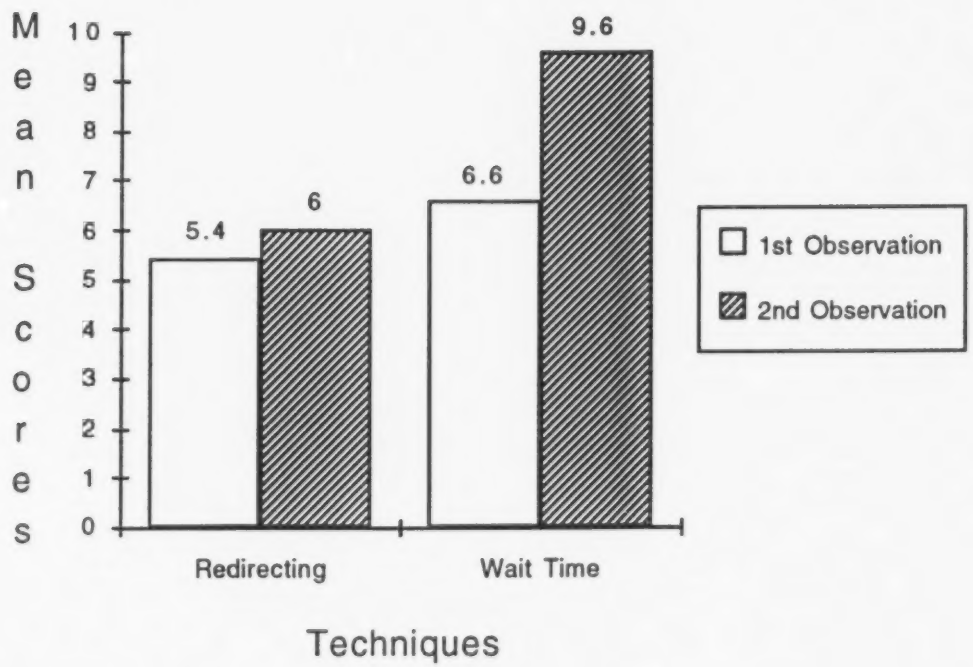



Figure 18. Techniques used by students without video evaluations, as recorded by college coordinators.

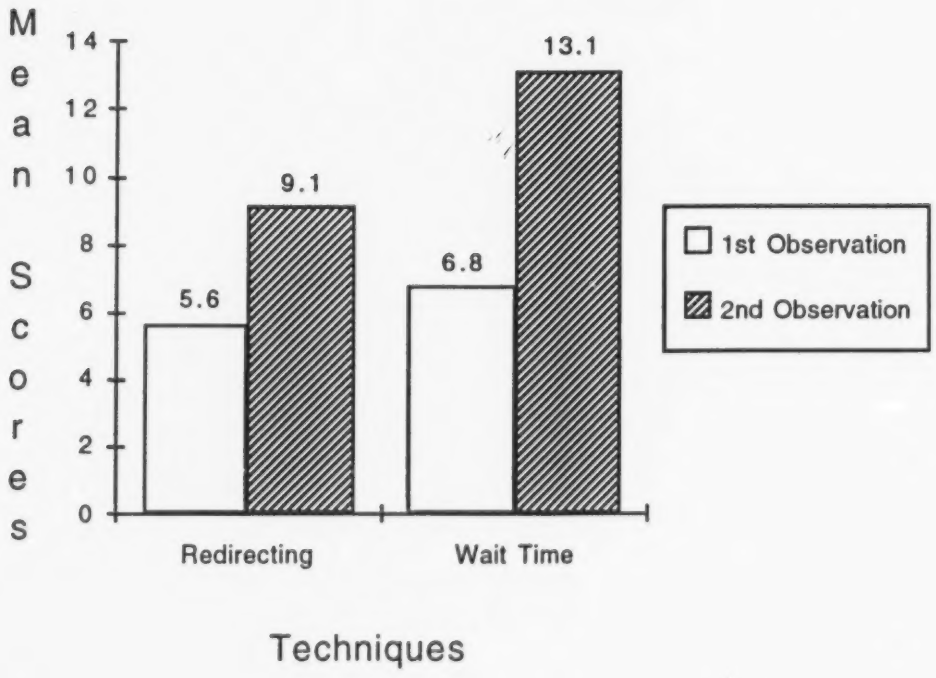



Figure 19. Techniques used by students with video evaluations, as recorded by college coordinators.

## Discussion

The writer found the objectives for this practicum to be realistic and achievable. Each objective was accomplished and provided data for seeking a plausible solution for improving question asking strategies of student teachers. The use of trained observers and college coordinators seemed to be appropriate for the data collection. The training provided to the observers seemed to be effective for helping them to identify question asking strategies and increase their awareness of their question asking skills. The feedback the student teachers received helped them when planning lessons for their learners. The feedback also helped them to focus on higher level thinking skills. The student teachers began to prepare their questions in advance, which is what McCullough and Findley (1983) found to be one characteristic of good questioning. All student teachers increased their wait time when asking questions. Those students who experienced video evaluations, significantly improved their wait time. In Rowe's research (1978) on wait time he found that the learner's response to questions increased in length and quality when given a wait time of 3 to 5 seconds. Student teachers who allowed for wait time encouraged thinking and discussion among their learners. Student teachers who improved their

question asking strategies also increased the learners' on-task behaviors. Although this was not measured it appeared that student teachers who improved their question asking strategies had fewer management problems with their learners. This would need additional study but it does seem to support research by Wilen (1987) where he reported that effective question asking strategies would decrease the amount of off-task behavior. In formative evaluations by college coordinators it also was observed that most of the student teachers did not ask several questions in succession. This would seem to indicate that the students were planning their questions and using higher order thinking skills to engage their learners in meaningful discussions. The decrease in convergent questions and the increase in divergent questions indicated that the student teachers were incorporating question asking strategies into the content of their lessons. The use of more divergent questioning by student teachers would encourage critical thinking skills in their learners. College coordinators also were able to use the data they collected from the Observation Form when providing feedback to their students.

The data indicated that students who received video evaluations improved their question asking strategies to a greater degree than students who did not receive video evaluations. This is a significant outcome because the

use of video evaluation could be used by any teacher who would like to improve her/his question asking strategies.

## Recommendations

The writer would recommend the following: (1) effective question asking strategies should be included as a component of all method courses in the college of education, (2) all education students should be required to video lessons in their method courses and evaluate their question asking strategies, and (3) junior and senior student teachers should be video taped, while performing practice teaching to improve their question asking strategies.

The writer felt these recommendations were supported by the data collected and the review of literature. It is the writer's opinion that all method courses should have question asking strategies as a component of the course. Instructors could model the levels and the types of questions appropriate for each content area.

The writer also felt that video taping of all education students while practice teaching would enable them to evaluate their own growth and progress. Through video evaluations the students would become more aware of their question asking strategies. This knowledge could be assimilated by the student teachers and used for planning more effective questions.

The writer felt it was extremely important for student teachers to be video taped while practice teaching. The data collected by the writer in this study found that students who experienced video evaluations improved their question asking strategies. Student teachers who use effective question asking strategies can increase the learners' abilities to use higher levels of thinking. Effective question asking strategies also could create an environment in the classroom that would enable all learners to become active participants.

It is the writer's conclusion that video taping students, while they practice teaching is beneficial for improving their question asking strategies.

## Dissemination

The writer has shared the collected data from this study with her colleagues. The reaction was positive and rewarding. When planning begins for the following semester the writer will encourage other instructors to include video taping and question asking strategies as part of the requirements for their course.

The writer has also contacted the school district to ask if they would like to include question asking strategies as part of an inservice training program. The response was an emphatic, yes! This response will give

the writer the opportunity to disseminate the information to other educational groups.

The writer also would like to use this study to write other articles for possible publication. The writer feels this study could be used for new and expanded research studies.

The writer plans to continue sharing this information and continue studying and researching other avenues for improving question asking strategies.

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# APPENDIX A

# NEEDS ASSESSMENT

Student Teacher's Needs
Assessment Form

As you prepare for your student teaching assignment please note any concerns you may have in any of the following areas:

Classroom Management

Questioning Skills

Class Organization

Lesson Planning

Subject Area Knowledge

Please feel free to communicate any other feelings or suggestions concerning your preparation for student teaching.

# APPENDIX B

# OBSERVATION FORM

Observation Form

Student's Name:_____

Observer's Name:_____

Subject:_____

Date:_____ Time:_____to_____

Levels of Questions

Directions: For each question record a tally mark to indicate if the question is either a high level (divergent) question or a low level (convergent) question. Total the number of tally marks for each level of questions and write the number in the appropriate space.

| High (Divergent) | Tally | Total |
|---|---|---|

| Low (Convergent) | Tally | Total |
|---|---|---|

Types of Questions

Directions: Record a tally mark to indicate when the student teacher asks a question which is a focusing, prompting, probing or closure seeking question. At the end of the observation total the tally marks and record the number in the appropriate space.

| Focusing | Tally | Total |
|---|---|---|
| Prompting | Tally | Total |
| Probing | Tally | Total |
| Closure Seeking | Tally | Total |

Technique

Direction: Record a tally mark each time the student teacher uses wait time before or after a question or redirects the learner's response. At the conclusion of the observation total the tally marks and write the number in the space provided.

| Redirecting | Tally | Total |
|---|---|---|

| Wait Time | Tally | Total |
|---|---|---|

Additional Comments:

# APPENDIX C

## SUPERVISING TEACHERS' QUESTIONNAIRE

## Supervising Teacher's Questionnaire

Thank you for participating in our Student Teaching Program. Without your assistance we would not be able to provide the experiences that are so necessary for our students. Please complete the following questionnaire, so that we may continue meeting the needs of our students. Your opinion is extremely important and worthwhile to us.

DIRECTIONS: Each of the statements below expresses a feeling toward the Student Teaching Program. Please rate each statement on the extent to which you agree.

| [____A____] | [_____B_____] | [____C____] | [____D____] | [____E____] |
|---|---|---|---|---|
| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |

_____ 1. Was the 16 week block an adequate amount of time for your senior student teacher to practice teaching ?

_____ 2. Was the student well prepared in her/his subject matter areas ?

_____ 3. Did the video taping of the student teacher seem beneficial as an evaluative tool ? (Answer where applicable).

_____ 4. Was the student teacher able to write instructional plans that included objectives, activities and evaluations ?

_____ 5. Did the student teacher's question asking strategies (levels of questions, types and techniques) improve ?

_____ 6. Did the student teacher need more classroom management techniques ?

_____ 7. Was the Student Teacher Handbook helpful ?

_____ 8. Was the student teacher able to ask questions encouraged her/his students to respond on a higher cognitive level ?

_____ 9. Did your class benefit from having a student teacher ?

_____ 10. Would you like to supervise a student teacher again ?

# APPENDIX D

# EVALUATION CHECKLIST

# Observation Form

Student's Name:_____

Observer's Name:_____

Subject:_____

Date:_____ Time:_____to_____

Levels of Questions

Directions: For each question record a tally mark to indicate if the question is either a high level (divergent) question or a low level (convergent) question. Total the number of tally marks for each level of questions and write the number in the appropriate space.

| High (Divergent) | Tally | Total |
|---|---|---|

| Low (Convergent) | Tally | Total |
|---|---|---|

Types of Questions

Directions: Record a tally mark to indicate when the student teacher asks a question which is a focusing, prompting, probing or closure seeking question. At the end of the observation total the tally marks and record the number in the appropriate space.

| Focusing | Tally | Total |
|---|---|---|
| Prompting | Tally | Total |
| Probing | Tally | Total |
| Closure Seeking | Tally | Total |

Technique

Direction: Record a tally mark each time the student teacher uses wait time before or after a question or redirects the learner's response. At the conclusion of the observation total the tally marks and write the number in the space provided.

| Redirecting | Tally | Total |
|---|---|---|

| Wait Time | Tally | Total |
|---|---|---|

Additional Comments:

DATE: August 7, 1992

TO: Dr. Mary Ellen Sapp
Director of Practicums
Programs in Child and Youth Studies
Nova University/CAE
3301 College Avenue
Fort Lauderdale, FL 33314

FROM: ERIC Clearinghouse on Teacher Education
American Association of Colleges
for Teacher Education
One Dupont Circle, N.W., Suite 610
Washington, D.C. 20036-1186

RE: Practicum Report

Student: Pollidia Hougham

Cluster: 37

Title: Improving Student Teachers' Strategies for Asking a Range of Both High and Low Level Questions Through Video Evaluations

The report has _____ has not _____ been accepted for abstraction in ERIC.

_____
Signed

Accession Number _____